

APPENDIX A - PENDING CLAIMS

1. A composition for transplantation into a mammalian xenogeneic subject comprising isolated spinal cord cells obtained from an embryonic pig of between about 24 and about 35 days of gestation, such that treatment of spinal cord damage that would benefit from survival and integration of the spinal cord cells is obtained upon transplantation into the subject.

3. The composition of claim 1, wherein the spinal cord cells are isolated from an embryonic pig between about days 24 to 30 of gestation.

4. The composition of claim 1, wherein the spinal cord cells are isolated from an embryonic pig between about days 25 to 29 of gestation.

5. The composition of claim 1, wherein the spinal cord cells are oligodendrocytes.

6. The composition of claim 1, wherein the spinal cord cells are astrocytes.

7. The composition of claim 1, wherein the spinal cord cells are neurons.

8. The composition of claim 1, wherein the cells, in unmodified form, have an MHC class I antigen on the cell surface which stimulates an immune response against the cell in a xenogeneic subject, wherein the MHC class I antigen on the cell surface is altered to inhibit rejection of the cells upon introduction of the composition into the subject.

10. The composition of claim 8, wherein the cells are contacted prior to transplantation into the xenogeneic subject with at least one anti-MHC class I antibody or fragment thereof, which binds to the MHC class I antigen on the cell surface but does not activate complement or induce lysis of the cells.

11. The composition of claim 10, wherein the anti-MHC class I antibody is an anti-MHC class I F(ab')₂ fragment.

12. The composition of claim 11, wherein the anti-MHC class I F(ab')₂ fragment is a F(ab')₂ fragment of a monoclonal antibody PT85.

13. The composition of claim 1, which further comprises at least one of the agents or factors selected from the group consisting of neurotrophic factors and anti-inflammatory agents.

14. The composition of claim 13, wherein the neurotrophic factor is selected from the group consisting of brain-derived neurotrophic factor, platelet-derived neurotrophic factor, neural growth factor, ciliary neurotrophic factor, neurotrophin-3, neurotrophin 4/5 and basic fibroblast growth factor.

15. The composition of claim 13, wherein the anti-inflammatory agent is a steroid.

16. The composition of claim 15, wherein the steroid is methylprednisolone.

17. The composition of claim 1, wherein the cell is obtained from a pig predetermined to be free from at least one organism selected from the group consisting of zoonotic, cross-placental and neurotropic organisms.

18. A method of treating a mammalian xenogeneic subject having spinal cord damage that would benefit from survival and integration of porcine spinal cord cells by administering to the subject a composition comprising isolated spinal cord cells obtained from an embryonic pig of between about 24 and about 35 days of gestation, such that treatment of spinal cord damage is obtained upon administration of the composition to the subject.

20. The method of claim 18, wherein the spinal cord cells are isolated from an embryonic pig between about days 24 to 30 of gestation.

21. The method of claim 18, wherein the spinal cord cells are isolated from an embryonic pig between about days 25 to 29 of gestation.

22. The method of claim 18, wherein the spinal cord cells are oligodendrocytes.

23. The method of claim 18, wherein the spinal cord cells are astrocytes.

24. The method of claim 18, wherein the spinal cord cells are neurons.

25. The method of claim 18, wherein the cells, in unmodified form, have at least one MHC class I antigen on the cell surface which stimulates an immune response against the cells in the subject, wherein the MHC class I antigen on the cell surface is altered to inhibit rejection of the cells when introduced into the subject.

26. The method of claim 25, wherein the cells are contacted prior to introduction into the subject with at least one molecule which binds to at least one antigen on the cell surface which antigen is capable of stimulating an immune response against the cells in the subject to alter the antigen on the cell surface to inhibit rejection of the cells when introduced into the subject.

28. The method of claim 26, wherein the cells are contacted prior to introduction into the subject with at least one anti-MHC class I antibody or fragment thereof, which binds to the MHC class I antigen on the cell surface but does not activate complement or induce lysis of the cells.

29. The method of claim 28, wherein the anti-MHC class I antibody is an anti-MHC class I F(ab')₂ fragment.

30. The method of claim 29, wherein the anti-MHC class I F(ab')₂ fragment is a F(ab')₂ fragment of a monoclonal antibody PT85.

31. The method of claim 18, wherein the composition further comprises at least one of the agents or factors selected from the group consisting of neurotrophic factors and anti-inflammatory agents.

32. The method of claim 31, wherein the neurotrophic factor is selected from the group consisting of brain-derived neurotrophic factor, ciliary neurotrophic factor,

platelet-derived growth factor, neural growth factor, neurotrophin-3, neurotrophin 4/5 and basic fibroblast growth factor.

33. The method of claim 31, wherein the anti-inflammatory agent is a steroid.
34. The method of claim 33, wherein the steroid is methylprednisolone.
35. The method of claim 18, wherein the xenogeneic subject is a human.
36. The method of claim 18, wherein the spinal cord damage is spinal cord injury.
37. The method of claim 35, wherein the spinal cord damage is a result of a neurodegenerative disorder.
38. The method of claim 37, wherein the neurodegenerative disorder is amyotrophic lateral sclerosis.
39. The composition of claim 1, wherein said xenogeneic subject is a human.
40. The composition of claim 1, wherein said spinal cord damage results from a condition selected from the group consisting of: spinal cord injury, neurodegenerative disorder, and aging.
41. The composition of claim 40, wherein said spinal cord injury is selected from the group consisting of compression, contusion, distraction, and solid core lesion.
42. The composition of claim 40, wherein said neurodegenerative disorder is selected from the group consisting of degeneration of cells in the spinal cord, physical deterioration, death of spinal cord cells, abnormal pattern of spinal cord cells, amyotrophic lateral sclerosis, multiple sclerosis, syringomyelia, spinal tumors or metastasis, bacterial spinal cord infections, and parasitic spinal cord infections.
43. The method of claim 36, wherein said spinal cord injury is selected from the group consisting of compression, contusion, distraction, and solid core lesion.

44. The method of claim 37, wherein said neurodegenerative disorder is selected from the group consisting of degeneration of cells in the spinal cord, physical deterioration, death of spinal cord cells, abnormal pattern of spinal cord cells, amyotrophic lateral sclerosis, multiple sclerosis, syringomyelia, spinal tumors or metastasis, bacterial spinal cord infections, and parasitic spinal cord infections.

45. The composition of claim 1, wherein the spinal cord cell is isolated from an embryonic pig at a gestational when isolated spinal cord cells have 50% or greater viability.

46. The method of claim 18, wherein the spinal cord cell is isolated from an embryonic pig at a gestational when isolated spinal cord cells have 50% or greater viability.

47. The composition of claim 1, wherein the composition comprises a population of isolated spinal cord cells in which at least about 30% of the spinal cord cells have neuron morphology.

48. The composition of claim 1, wherein the spinal cord damage is spinal cord injury.